HVTECK AL 1/C 260TRXLPE TS PVC AIA PVC 25kV 100% CSA

Single Conductor, 260 Mils Tree Retardant Cross Linked Polyethylene, 100% Insulation Level, Tape Shield, Polyvinyl Chloride (PVC) Inner Jacket, Aluminum Interlocked Armour (AIA), Polyvinyl Chloride (PVC) Jacket

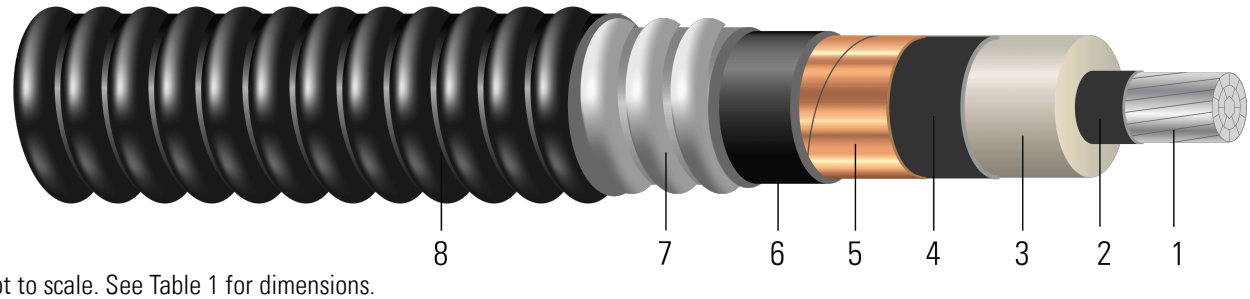


Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Class B compact stranded 8000 Series aluminum per ASTM B800 and ASTM B836
2. **Conductor Shield:** Semi-conducting cross-linked copolymer; A conductor separator is used for cable size larger than or equal to 500 Kcmil
3. **Insulation:** 260 Mils Tree Retardant Cross Linked Polyethylene 100% insulation level
4. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
5. **Copper Tape Shield:** Helically wrapped 5 mil copper tape with 25% overlap
6. **Inner Jacket:** PVC inner jacket
7. **Armour:** Aluminum Interlocked Armour (AIA)
8. **Overall Jacket:** Black Polyvinyl Chloride (PVC) Jacket

APPLICATIONS AND FEATURES:

Southwire's 25kV HVTECK is a CSA armoured cable for industrial and commercial medium voltage applications. Rated FT4, -40°C, Hazardous Locations (HL). These cables are capable of operating continuously at the conductor temperature not in excess of 105°C for normal operation, 140°C for emergency overload, and 250°C for short circuit conditions. Rated for 1000 lbs /FT maximum sidewall pressure. These cables feature sunlight and moisture resistance, exceptional corona resistance, resistance to most chemical soils and acids and are flame retardant.

SPECIFICATIONS:

- ASTM B801 Concentric-Lay-Stranded Conductors of 8000 Series Aluminum Alloy
- ASTM B836 Compact Rounded Stranded Aluminum Conductors
- CSA C22.2 No. 174 Cables in Hazardous Locations
- CSA C22.2 No. 2556 & No. 0.3 Wire and Cable Test Methods
- CSA C68.10 Shielded Power Cables for Commercial and Industrial Applications - 5 to 46 KV
- CSA C68.3 Shielded & Concentric Neutral Power Cable - 5 to 46 kV
- CSA LTGG [-40°C] - as per C68.10 - for Cold Bend and Impact rating
- CSA HL - for Hazardous Locations rating
- CSA SUN RES - for Sunlight Resistant rating
- ICEA S-93-639 (NEMA WC 74) 5-46 KV Shielded Power Cable
- ICEA T-29-520 Flame Test (210,000 BTU/Hr)
- IEEE 383 Flame Test (70,000 btu)
- IEEE 1202 FT4 Flame Test (70,000) BTU/hr Vertical Tray Test (1/0 and Larger)

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UPDATED: Dec. 31, 2024, 11:07 p.m.UTC REVISION: 1.000.000

- FT1 Flame Test (1,706 BTU/Hr nominal - Vertical Wire Flame Test)
- AEIC CS-8 Specification for extruded dielectric shielded power cables rated for 5 through 46KV (Qualification Test Requirements)

SAMPLE PRINT LEGEND:

(CSA) SOUTHWIRE (NESC) #P# 1/C [#AWG or #kcmil] CPT AL 260 TRXLPE AIA 25kV 100% INS LEVEL 25% TS SUN RES 105°C FT4 HL (-40°C) LTGG RoHS YEAR [SEQUENTIAL METER MARKS]

Table 1 – Weights and Measurements

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
AWG/ Kcmil	No.	inch	inch	mil	inch	mil	inch	mil	inch	lb/1000ft	lb/1000ft	inch
1	19	0.299	0.857	260	0.917	80	1.307	50	1.407	76	976	3.5
1/0	19	0.336	0.894	260	0.954	80	1.344	50	1.444	79	1035	3.5
2/0	19	0.376	0.934	260	0.994	80	1.384	50	1.484	82	1104	4
3/0	19	0.423	0.981	260	1.041	80	1.431	50	1.531	86	1186	4
4/0	19	0.475	1.033	260	1.093	80	1.583	60	1.703	90	1456	4.5
250	37	0.52	1.086	260	1.146	80	1.636	60	1.756	94	1558	4.5
350	37	0.616	1.182	260	1.242	80	1.732	60	1.852	102	1764	5
500	37	0.736	1.302	260	1.362	80	1.852	60	1.972	112	2046	5
750	61	0.908	1.484	260	1.544	110	2.094	60	2.214	127	2619	6
1000	61	1.117	1.693	260	1.753	110	2.303	75	2.453	144	3176	6.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance	Positive Sequence Impedance	Phase Short Circuit Current @ 6 Cycles	Allowable Ampacity In Air 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	inch	lb	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1	9.8	502	0.211	0.289	0.064	0.057	0.644+j0.422	0.290+j0.061	2872	193	194
1/0	10.1	633	0.167	0.229	0.059	0.055	0.584+j0.408	0.230+j0.059	2987	221	219
2/0	10.4	798	0.133	0.182	0.055	0.053	0.536+j0.392	0.183+j0.057	3111	253	246
3/0	10.7	1006	0.105	0.144	0.051	0.051	0.497+j0.376	0.145+j0.055	3256	288	275
4/0	11.9	1269	0.084	0.115	0.048	0.051	0.465+j0.358	0.116+j0.055	3418	327	305
250	12.3	1500	0.07	0.096	0.044	0.05	0.444+j0.342	0.097+j0.053	3582	367	343
350	13	2100	0.051	0.07	0.039	0.047	0.413+j0.314	0.071+j0.051	3879	443	399
500	13.8	3000	0.036	0.05	0.035	0.044	0.385+j0.284	0.051+j0.048	4251	529	451
750	15.5	4500	0.023	0.033	0.029	0.042	0.355+j0.245	0.035+j0.046	4815	633	505
1000	17.2	6000	0.017	0.025	0.025	0.04	0.330+j0.211	0.027+j0.045	5462	711	544

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* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
***** CEC ampacities are based on:
3-1/C in air copper and aluminum: D17M
3-1/C direct buried copper and aluminum: D17A

Table 3 – Weights and Measurements (Metric)

Cond. Size	Strand	Diameter Over Conductor	Diameter Over Insulation	Insul. Thickness	Diameter Over Insulation Shield	Inner Jacket Thickness	Dia. Over Armour	Overall Jacket Thickness	Approx. OD	Copper Weight	Approx. Weight	Conduit Size*
AWG/ Kcmil	No.	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	inch
1	19	7.59	21.77	6.60	23.29	2.03	33.20	1.27	35.74	113	1452	3.5
1/0	19	8.53	22.71	6.60	24.23	2.03	34.14	1.27	36.68	118	1540	3.5
2/0	19	9.55	23.72	6.60	25.25	2.03	35.15	1.27	37.69	122	1643	4
3/0	19	10.74	24.92	6.60	26.44	2.03	36.35	1.27	38.89	128	1765	4
4/0	19	12.07	26.24	6.60	27.76	2.03	40.21	1.52	43.26	134	2167	4.5
250	37	13.21	27.58	6.60	29.11	2.03	41.55	1.52	44.60	140	2319	4.5
350	37	15.65	30.02	6.60	31.55	2.03	43.99	1.52	47.04	152	2625	5
500	37	18.69	33.07	6.60	34.59	2.03	47.04	1.52	50.09	167	3045	5
750	61	23.06	37.69	6.60	39.22	2.79	53.19	1.52	56.24	189	3898	6
1000	61	28.37	43.00	6.60	44.53	2.79	58.50	1.91	62.31	214	4726	6.5

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
* Strand count meets minimum number per ASTM
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 4 – Electrical and Engineering Data (Metric)

Cond. Size	Min Bending Radius	Max Pull Tension	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance @ 60Hz	Inductive Reactance @ 60Hz	Zero Sequence Impedance	Positive Sequence Impedance	Phase Short Circuit Current @ 6 Cycles	Allowable Ampacity In Air 90°C	Allowable Ampacity Directly Buried 90°C
AWG/ Kcmil	mm	newton	Ω/km	Ω/km	MΩ*km	Ω/km	Ω/1000ft	Ω/1000ft	Amp	Amp	Amp
1	248.92	2234	0.6923	0.95	0.0195	0.1870	0.644+j0.422	0.290+j0.061	2872	193	194
1/0	256.54	2817	0.5479	0.75	0.0180	0.1804	0.584+j0.408	0.230+j0.059	2987	221	219
2/0	264.16	3551	0.4364	0.60	0.0168	0.1739	0.536+j0.392	0.183+j0.057	3111	253	246
3/0	271.78	4477	0.3445	0.47	0.0155	0.1673	0.497+j0.376	0.145+j0.055	3256	288	275
4/0	302.26	5647	0.2756	0.38	0.0146	0.1673	0.465+j0.358	0.116+j0.055	3418	327	305
250	312.42	6675	0.2297	0.31	0.0134	0.1640	0.444+j0.342	0.097+j0.053	3582	367	343
350	330.20	9345	0.1673	0.23	0.0119	0.1542	0.413+j0.314	0.071+j0.051	3879	443	399
500	350.52	13350	0.1181	0.16	0.0107	0.1444	0.385+j0.284	0.051+j0.048	4251	529	451
750	393.70	20025	0.0755	0.11	0.0088	0.1378	0.355+j0.245	0.035+j0.046	4815	633	505
1000	436.88	26700	0.0558	0.08	0.0076	0.1312	0.330+j0.211	0.027+j0.045	5462	711	544

* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.
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